

60246-261  
10/722,618

## REMARKS

Claims 17-20 have been rejected as anticipated or obvious over Yamanaka (US 5,919,422). The Examiner has ignored portions of claim 17 saying that they are purely functional. Applicant disagrees that these claim terms should be ignored. ("A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used." MPEP 2173.05(g).) These claim terms do not merely recite an "intended use" for the claimed system, but recite requirements for the capability of the system. As a compromise, claim 17 has been amended to reword the limitations in a more structural relationship. Claims 17-20 should therefore be allowable.

Additionally, Yamanaka does not disclose the elements recited by claim 19, which states that the ultraviolet light passes through the first photocatalyst onto the second photocatalyst. Again, claim 19 recites a requirement that the system has a certain capability, not merely an intended use and this language should not be ignored. Therefore, claim 19 is independently patentable.

The Examiner has rejected claims 1-16 as obvious over Yamanaka in view of Yang (US 6,147,367), saying that structure of the light-emitting diode of Yamanaka is known, as shown by Yang. However, even if the Yamanaka system included the LED of Yang, it would still not include the elements of the claims. Claims 1-16 recite specific locations of the photocatalyst relative to the LED that are different from those shown in Yamanaka, even when viewed in light of Yang.

Figures 2, 3 and 33 of Yamanaka do not disclose a photocatalyst directly on the semiconductor, as recited by claim 12. The LEDs of Yamanaka, especially when viewed in light of Yang, include multiple layers of glass and air and the glass rod (Figure 2 of Yamanaka) or

60246-261  
10/722,618

glass fibers (Figure 3 of Yamanaka) or microphone structure (Figure 33 of Yamanaka). Therefore, claim 12 is not obvious. Nor do Yamanaka and Yang disclose or suggest the semiconductor-fluid-first layer-photocatalyst structure recited in claim 7. Yamanaka and Yang do not disclose or suggest the semiconductor-first layer-photocatalyst structure recited in claim 1.

Dependent claims are also independently patentable. For example, claims 4, 10 and 15 recite that the photocatalyst is disposed within an air handling system, which is not shown in Figures 2, 3 and 33 of Yamanaka.

Reconsideration is requested. The Examiner is urged to call the undersigned if the Examiner believes that a telephone conference would expedite resolution of this application. No fee should be due, but if any fee is due, please charge Deposit Account No. 03-0835.

Respectfully submitted,

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May 1, 2006